

## EAST Search History (Prior Art)

| Ref # | Hits | Search Query   | DBs                    | Default Operator | Plurals | Time Stamp       |
|-------|------|--|------------------------|------------------|---------|------------------|
| L1    | 241  | (precipitat\$4 near2 (bath or system)) same (polyphosphoric or polysulfonic or polycarboxylic or acrylic or methacrylate or vinylpyrrolidone)  | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2011/10/12 11:18 |
| L2    | 779  | (precipitat\$4 with (bath or system)) same (polyphosphoric or polysulfonic or polycarboxylic or acrylic or methacrylate or vinylpyrrolidone)   | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2011/10/12 11:18 |
| L3    | 7795 | (precipitat\$4 with (bath or system or solution)) same (polyphosphoric or polysulfonic or polycarboxylic or acrylic or methacrylate or vinylpyrrolidone)   | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2011/10/12 11:18 |
| L4    | 26   | 3 and (asymmetric\$4 with (membrane or fiber))   | US-PGPUB; USPAT; USOCR | OR               | ON      | 2011/10/12 11:19 |
| L5    | 18   | "5879554"  | US-PGPUB; USPAT        | OR               | OFF     | 2011/10/12 11:20 |
| L6    | 1    | (10/666893).APP.   | USPAT; USOCR           | OR               | OFF     | 2011/10/12 12:02 |
| L7    | 37   | ("3709841"   "3769332"   "3855122"   "3869429"   "4026977"   "4054707"   "4207182"   "4268650"   "4273903"   "4419486"   "4634530"   "4714725"   "4818387"   "4866099"   "4920193"   "4922485"   "4939180"   "4941893"   "4954143"   "4971695"   "4992485"   "5008352"   "5013765"   "5028337"   "5030672"   "5071448"   "5112892"   "5118766"   "5246582"   "5401410"   "5693740"   "5879554"   "5997741"   "6258272").PN. OR ("7160927").URPN. | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2011/10/12 12:02 |
| L9    | 3    | 7 and (polyphosphoric or polysulfonic or polycarboxylic or acrylic or methacrylate or vinylpyrrolidone)  | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2011/10/12 12:03 |
| L10   | 118  | (precipita\$5 same polyelectrolyte same (polyphosphoric or polysulfonic or polycarboxylic or methacrylic or acrylic or vinylpyrrolidone or methacrylate))  | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2011/10/12 12:07 |
| L11   | 15   | 10 and (asymmetric\$4)   | US-PGPUB; USPAT; USOCR | OR               | OFF     | 2011/10/12 12:07 |
| L12   | 5    | 10 and (asymmetric\$4 with (membrane or fiber))  | US-PGPUB; USPAT; USOCR | OR               | ON      | 2011/10/12 12:07 |
| L13   | 62   | "4604208"  | US-PGPUB; USPAT; USOCR | OR               | ON      | 2011/10/12 12:10 |

## EAST Search History (Prior Art)

|     |       |   |  |    |     |                  |
|-----|-------|---|--|----|-----|------------------|
| L14 | 66    | ("3524546"   "3672975"   "3752749"   "3808305"   "4012324"   "4033817"   "4203848"   "4214020"   "4250029"   "4431545"   "4473474"   "4473475").PN. OR ("4604208").URPN.          | US-PGPUB;<br>USPAT;<br>USOCR   | OR | OFF | 2011/10/12 12:12 |
| L15 | 33    | 13 and (polyphosphoric or polysulfonic or polycarboxylic or acrylic or methacrylate or vinylpyrrolidone)  | US-PGPUB;<br>USPAT;<br>USOCR   | OR | OFF | 2011/10/12 12:14 |
| L16 | 9     | 15 and (asymmetric\$4 with (fiber or membrane))   | US-PGPUB;<br>USPAT;<br>USOCR   | OR | ON  | 2011/10/12 12:14 |
| L17 | 35    | 14 and (polyphosphoric or polysulfonic or polycarboxylic or acrylic or methacrylate or vinylpyrrolidone)  | US-PGPUB;<br>USPAT;<br>USOCR   | OR | OFF | 2011/10/12 12:17 |
| L18 | 6     | 17 and (asymmetric\$4 with (fiber or membrane))   | US-PGPUB;<br>USPAT;<br>USOCR   | OR | ON  | 2011/10/12 12:17 |
| L35 | 17407 | ((precipitant or precipitat\$4) with (system or bath or solvent)) and (polyphosphoric or polysulfonic or methyl near2 methacrylate or vinylpyrrolidone or methacrylic near2 acid) | US-PGPUB;<br>USPAT   | OR | OFF | 2011/10/12 12:31 |
| L36 | 189   | 35 and (asymmetric\$4 with (membrane or fiber))   | US-PGPUB;<br>USPAT   | OR | ON  | 2011/10/12 12:32 |
| L37 | 3     | 36 and (internal with fill\$4)  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/10/12 12:32 |
| L38 | 13    | "5919370"   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/10/12 12:59 |
| L39 | 80    | (asymmetric\$4 with (membrane or fiber)) and (polysulfon\$3 near2 acid or polyphospho\$4 near2 acid)  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/10/12 13:05 |
| L40 | 21    | 39 and ((coat\$4 or film\$4) same (polysulfon\$4 near2 acid or polyphospho\$4 near2 acid))  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/10/12 13:06 |
| L41 | 85    | ((core or lumen or center or bore or internal) near2 (solution or filler)) same (acrylic or methacrylic) same (methacrylate or vinylpyrrolidone)                                  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2011/10/12 13:59 |
| L42 | 36    | 41 and (asymmetric\$4 with (membrane or fiber))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2011/10/12 13:59 |

## EAST Search History (Prior Art)

|     |      |   |  |    |     |                  |
|-----|------|---|--|----|-----|------------------|
| L43 | 1152 | ((core or lumen or center or bore or internal) near2 (solution or fluid or filler)) same (acrylic or methacrylic or methacrylate or vinylpyrrolidone)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2011/10/12 14:00 |
| L44 | 54   | 43 and (asymmetric\$4 with (membrane or fiber))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2011/10/12 14:00 |
| L45 | 6    | "0568045"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2011/10/12 14:09 |
| L46 | 4    | 45 and (acrylic or vinylpyrrolidone or methacrylate or methacrylic)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2011/10/12 14:10 |
| L47 | 19   | (US-20070163950-\$ or US-20080000828-\$ or US-20070163949-\$ or US-20040045897-\$ or US-20030045461-\$ or US-20070056900-\$ or US-20040054125-\$).did. or (US-4814082-\$ or US-4976859-\$ or US-5919370-\$ or US-5840190-\$ or US-4906375-\$ or US-4604208-\$ or US-5290448-\$ or US-7811507-\$ or US-5879554-\$ or US-4765897-\$ or US-4812270-\$ or US-6248469-\$).did. | US-PGPUB;<br>USPAT   | OR | OFF | 2011/10/12 14:25 |
| L48 | 8    | 47 and (acrylic near2 acid)   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/10/12 14:25 |
| L49 | 644  | (asymmetric\$4 with (membrane or fiber)) and (acrylic near2 acid)   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/10/12 14:31 |
| L50 | 39   | 49 and (acrylic near2 acid same (precipit\$5 or extrud\$4 or spin\$4 or coagulat\$4))   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/10/12 14:31 |
| L51 | 275  | ((core or lumen or center or bore or internal) near2 (solution or fluid or filler)) same (acrylic near2 acid)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2011/10/12 14:36 |

## EAST Search History (Prior Art)

|     |     |   |  |    |     |                  |
|-----|-----|---|--|----|-----|------------------|
| L52 | 38  | 51 and (asymmetric\$4 with (membrane or fiber))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2011/10/12 14:36 |
| L53 | 85  | "4364972"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2011/10/12 14:50 |
| S1  | 1   | "20070163950"   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:24 |
| S2  | 1   | "2008000828"  | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:25 |
| S3  | 1   | "20070163949"   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:25 |
| S5  | 28  | "4814082"   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:44 |
| S6  | 153 | "4976859"   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:44 |
| S7  | 9   | "5919370"   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:45 |
| S8  | 230 | integral\$3 with asymmetric with membrane   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:46 |
| S9  | 12  | S8 and (electrolyte or polyelectrolyte)   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:46 |
| S10 | 6   | S9 and (phosphoric or sulfonic or carboxylic)   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:46 |
| S11 | 213 | membrane same (spinning with solution with solvent)   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:50 |
| S12 | 3   | S11 and (precipit\$4 with (electrolyte or polyelectrolyte or phosphoric or carboxylic or sulfonic)) | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:51 |
| S13 | 627 | membrane and (spinning with solution with solvent)  | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:52 |
| S14 | 4   | S13 and (precipit\$4 with (electrolyte or polyelectrolyte or phosphoric or carboxylic or sulfonic)) | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:52 |
| S15 | 2   | "20040045897"   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:53 |
| S16 | 60  | asymmetric with membrane and (polyphosphoric or polysulfonic or polycarboxylic)                     | US-PGPUB;<br>USPAT   | OR | OFF | 2010/02/20 12:59 |

## EAST Search History (Prior Art)

|     |      |  |                    |    |     |                  |
|-----|------|--|--------------------|----|-----|------------------|
| S17 | 20   | S16 and (spin\$4 with solution)  | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/20 13:00 |
| S18 | 9    | S16 and (spin\$4 with solution with solvent)   | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/20 13:00 |
| S19 | 7332 | membrane and (polyphosphoric or polysulfonic or polycarboxylic)  | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 09:59 |
| S20 | 340  | S19 and (spin\$4 with solution)  | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:00 |
| S21 | 79   | S19 and (spin\$4 with solution with solvent)   | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:00 |
| S22 | 2225 | S19 and ((precipita\$4 or coagulat\$5) with (solution or fluid or system))   | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:01 |
| S23 | 38   | S22 and (spin\$4 with solution with solvent)   | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:01 |
| S24 | 3    | S23 and (asymmetric with membrane)   | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:02 |
| S25 | 2376 | S19 and ((precipita\$4 or coagulat\$5) with (solution or fluid or system or liquid))                                     | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:02 |
| S26 | 242  | S19 and (((precipita\$4 or coagulat\$5) with (solution or fluid or system)) same (phosphoric or sulfonic or carboxylic)) | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:03 |
| S27 | 4    | S26 and (spin\$4 with solution with solvent)   | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:03 |
| S28 | 16   | S26 and (spin\$4 with solution)  | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:19 |
| S29 | 0    | S28 and (hollow with fiber with die)   | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:19 |
| S30 | 2    | S28 and (((precipita\$4 or coagulat\$5) with (solution or fluid or system or liquid)) same (spin\$4 with solution))      | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:20 |
| S31 | 4    | "4898698"  | US-PGPUB;<br>USPAT | OR | OFF | 2010/02/22 10:54 |
| S32 | 23   | wechs near2 friedbert  | US-PGPUB;<br>USPAT | OR | OFF | 2010/07/09 14:49 |
| S33 | 7    | S32 and (asymmetric with membrane)   | US-PGPUB;<br>USPAT | OR | OFF | 2010/07/09 14:50 |
| S34 | 1    | "20070163950"  | US-PGPUB;<br>USPAT | OR | OFF | 2011/03/16 10:56 |
| S35 | 6    | (asymmetric with membrane) and (precipit\$5 with (acrylic or sulfonic or phosphoric))                                    | US-PGPUB;<br>USPAT | OR | OFF | 2011/03/16 11:17 |
| S36 | 1    | (asymmetric with membrane) and (precipitant with system)   | US-PGPUB;<br>USPAT | OR | OFF | 2011/03/16 11:19 |

## EAST Search History (Prior Art)

|     |     |  |                              |    |     |                  |
|-----|-----|--|------------------------------|----|-----|------------------|
| S37 | 55  | ("3441142"   "3522346"   "3616935"   "3705084"   "4102746"   "4702840"   "4855234"   "4906375"   "5041225"   "5283186"   "5420047"   "5476665").PN. OR ("5840190").URPN.                                 | US-PGPUB;<br>USPAT;<br>USOCR | OR | OFF | 2011/03/16 11:23 |
| S38 | 10  | (US-20070163950-\$ or US-20080000828-\$ or US-20070163949-\$ or US-20040045897-\$ or US-20030045461-\$).did. or (US-4814082-\$ or US-4976859-\$ or US-5919370-\$ or US-5840190-\$ or US-4906375-\$).did. | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:05 |
| S39 | 5   | S38 and (spin\$4 and acrylic)  | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:06 |
| S40 | 8   | (asymmetric with membrane) and interior near2 filler   | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:09 |
| S41 | 5   | acrylidone and (asymmetric near2 membrane)   | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:11 |
| S42 | 5   | acrylidone and (asymmetric with membrane)  | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:11 |
| S43 | 37  | (spin with solution) and (polyelectrolyte or acrylic or polysulfonic or polyphosphoric or polycarboxylic) and (asymmetric with membrane)   | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:13 |
| S44 | 13  | (spin with solution) and (asymmetric with membrane) and (bore with (fluid or liquid or polymer))   | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:28 |
| S45 | 3   | S44 and (bore same acrylic\$5)   | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:28 |
| S46 | 13  | "5290448"  | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:30 |
| S47 | 60  | "5762798"  | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:32 |
| S48 | 68  | (asymmetric with membrane) and (precipitating with solution) and (spin\$5)   | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:45 |
| S49 | 1   | S48 and (precipitat\$5 same (polyphosphoric or phosphoric or polysulfonic or sulfonic or polycarboxylic or carboxylic or acrylic))   | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:46 |
| S50 | 18  | (asymmetric with membrane) and (precipitating near2 solution) and (spin\$5)  | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:47 |
| S51 | 25  | (asymmetric with membrane) and (precipitating near2 (solution or liquid)) and (spin\$5)  | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:50 |
| S52 | 8   | S51 and (polyphosphoric or phosphoric or polysulfonic or sulfonic or polycarboxylic or carboxylic or acrylic)  | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:50 |
| S53 | 238 | (asymmetric with membrane) and (precipita\$3 with (solution or liquid)) and (spin\$5)  | US-PGPUB;<br>USPAT           | OR | OFF | 2011/03/16 13:58 |

## EAST Search History (Prior Art)

|     |     |  |  |    |     |                  |
|-----|-----|--|--|----|-----|------------------|
| S55 | 17  | S53 and (precipita\$5 same (polyphosphoric or phosphoric or polysulfonic or sulfonic or polycarboxylic or carboxylic or acrylic))  | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/16 13:58 |
| S56 | 146 | S53 and (polyphosphoric or phosphoric or polysulfonic or sulfonic or polycarboxylic or carboxylic or acrylic)  | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/16 14:01 |
| S57 | 7   | S53 and (extru\$5 same (polyphosphoric or phosphoric or polysulfonic or sulfonic or polycarboxylic or carboxylic or acrylic))  | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/16 14:01 |
| S58 | 409 | (asymmetric with membrane) and ((coagulat\$4 or precipita\$3) with (solution or liquid or medium)) and (spin\$5)   | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/16 14:03 |
| S59 | 18  | S58 and (((coagulat\$4 or precipita\$3) with (solution or liquid or medium)) same (polyphosphoric or phosphoric or polysulfonic or sulfonic or polycarboxylic or carboxylic or acrylic))                 | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/16 14:04 |
| S61 | 588 | (asymmetric with membrane) and ((coagulat\$4 or precipita\$3 or core or bore) with (solution or liquid or medium)) and (spin\$5)   | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/16 14:15 |
| S62 | 58  | S61 and (((coagulat\$4 or precipita\$3 or core or bore) with (solution or liquid or medium)) same (polyphosphoric or phosphoric or polysulfonic or sulfonic or polycarboxylic or carboxylic or acrylic)) | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/16 14:16 |
| S63 | 3   | "2003061812"   | US-PGPUB;<br>USPAT;<br>EPO;<br>DERWENT | OR | OFF | 2011/03/16 14:26 |
| S64 | 2   | "7429343"  | US-PGPUB;<br>USPAT;<br>EPO;<br>DERWENT | OR | OFF | 2011/03/16 14:35 |
| S65 | 588 | (asymmetric with membrane) and ((coagulat\$4 or precipita\$3 or core or bore) with (solution or liquid or medium)) and (spin\$5)   | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/17 09:31 |
| S66 | 58  | S65 and (((coagulat\$4 or precipita\$3 or core or bore) with (solution or liquid or medium)) same (polyphosphoric or phosphoric or polysulfonic or sulfonic or polycarboxylic or carboxylic or acrylic)) | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/17 09:31 |
| S67 | 42  | S66 and (cellulos\$2 and polysulfon\$4)  | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/17 09:31 |
| S68 | 36  | S67 and ("die" and extrud\$4)  | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/17 09:31 |
| S69 | 0   | S68 and (integral\$4 with asymmetric with membrane)  | US-PGPUB;<br>USPAT                     | OR | OFF | 2011/03/17 09:31 |

## EAST Search History (Prior Art)

|     |      |  |  |    |     |                  |
|-----|------|--|--|----|-----|------------------|
| S70 | 409  | (asymmetric with membrane) and<br>((coagulat\$4 or precipita\$3) with (solution<br>or liquid or medium)) and (spin\$5)   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/03/17 09:51 |
| S71 | 52   | S70 and (((coagulat\$4 or precipita\$3 or core<br>or bore) with (solution or liquid or medium))<br>same (polyphosphoric or phosphoric or<br>polysulfonic or sulfonic or polycarboxylic or<br>carboxylic or acrylic)) | US-PGPUB;<br>USPAT   | OR | OFF | 2011/03/17 09:51 |
| S72 | 239  | acrylidone   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 11:37 |
| S73 | 7    | S72 and (asymmetric\$4 near2 membrane)   | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 11:39 |
| S74 | 5980 | (copolymer with acrylic with<br>vinylpyrrolidone)  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 11:45 |
| S75 | 50   | S74 and (asymmetric\$4 with membrane)  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 11:45 |
| S76 | 49   | S75 and (polysulfone or polyphenylene<br>near2 sulfone or polyethersulfone or<br>polyimide or polyetherimide or<br>polycarbonate or polyetherketone)   | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 11:48 |
| S77 | 44   | S76 and (spin\$4 or spun)  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 11:53 |
| S78 | 6    | S77 and (spin\$4 with solution)  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 11:53 |
| S79 | 19   | "6565782"  | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 14:53 |
| S80 | 61   | "4604208"  | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 15:06 |
| S81 | 5980 | (copolymer with acrylic with<br>vinylpyrrolidone)  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 15:07 |
| S82 | 50   | S81 and (asymmetric\$4 with membrane)  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 15:07 |
| S83 | 49   | S82 and (polysulfone or polyphenylene<br>near2 sulfone or polyethersulfone or<br>polyimide or polyetherimide or<br>polycarbonate or polyetherketone)   | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 15:07 |
| S84 | 44   | S83 and (spin\$4 or spun)  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 15:07 |
| S85 | 40   | wechs near2 friedbert  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2011/09/21 15:17 |



## EAST Search History (Prior Art)

|          |      |   |  |    |     |                  |
|----------|------|---|--|----|-----|------------------|
| S86      | 5    | S85 and S81   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2011/09/21 15:22 |
| S87      | 8001 | (copolymer with acrylic with vinylpyrrolidone) or polyphosphoric or polysulfonic  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 15:23 |
| S88      | 68   | S87 and (asymmetric\$4 with membrane)   | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 15:23 |
| S89      | 60   | S88 and (polysulfone or polyphenylene near2 sulfone or polyethersulfone or polyimide or polyetherimide or polycarbonate or polyetherketone) | US-PGPUB;<br>USPAT   | OR | ON  | 2011/09/21 15:23 |
| S90      | 8    | acrylidone and (asymmetric\$4)  | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 15:28 |
| S91      | 2257 | (polyelectrolyt\$3 or anionic) with (polyphosphoric or polysulfonic or polycarboxylic)  | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 15:31 |
| S92      | 10   | S91 and (asymmetric\$4 with membrane)   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 15:31 |
| S93      | 65   | asymmetric\$3 near2 membrane and (polyphosphoric or polysulfonic or polycarboxylic)   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 15:32 |
| S94      | 2    | S93 and ((anionic or negative\$3) with (modif\$6))  | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 15:34 |
| S95      | 0    | S93 and polysulfone   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 15:36 |
| S96      | 31   | S93 and (spin\$4)   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 15:36 |
| S97      | 34   | "4814082"   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 15:40 |
| S98      | 7    | S97 and spin\$4   | US-PGPUB;<br>USPAT   | OR | OFF | 2011/09/21 15:51 |
| S99      | 6010 | (copolymer with acrylic with vinylpyrrolidone)  | US-PGPUB;<br>USPAT   | OR | ON  | 2011/10/12 08:56 |
| S10<br>0 | 40   | wechs near2 friedbert   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2011/10/12 08:56 |

## EAST Search History (Prior Art)

|          |     |   |  |    |     |                  |
|----------|-----|---|--|----|-----|------------------|
| S10<br>1 | 5   | S100 and S99  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2011/10/12 08:56 |
| S10<br>2 | 5   | S101 and asymmetric\$4  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2011/10/12 08:56 |
| S10<br>3 | 15  | "5290448"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2011/10/12 09:03 |
| S10<br>4 | 26  | ("3600491"   "3674628"   "3871950"  <br>"3930105"   "4006067"   "4056467"  <br>"4181694"   "4234431"   "4252652"  <br>"4340481"   "4432923"   "4545910"  <br>"4564488"   "5039420").PN. OR<br>("5290448").URPN. | US-PGPUB;<br>USPAT;<br>USOCR   | OR | OFF | 2011/10/12 09:14 |
| S10<br>5 | 8   | S104 and (phosphoric or carboxylic or<br>sulfonic)  | US-PGPUB;<br>USPAT;<br>USOCR   | OR | OFF | 2011/10/12 09:14 |
| S10<br>6 | 910 | (precipitat\$4 near2 (bath or system)) same<br>(phosphoric or sulfonic or carboxylic or<br>acrylic or methacrylate or vinylpyrrolidone)   | US-PGPUB;<br>USPAT;<br>USOCR   | OR | OFF | 2011/10/12 09:24 |
| S10<br>7 | 13  | S106 and (asymmetric\$4 with (membrane<br>or fiber))  | US-PGPUB;<br>USPAT;<br>USOCR   | OR | ON  | 2011/10/12 09:25 |

## EAST Search History (Interference)

|  |  |                                  |  |  |  |
|--|--|----------------------------------|--|--|--|
|  |  | < This search history is empty > |  |  |  |
|--|--|----------------------------------|--|--|--|